Male
pattern baldness in Men
Figure 1. Androgenetic alopecia in a male.

Figure 2. Androgenetic alopecia in a female.

Androgenic alopecia: Norwood-Hamilton classification for men

- Vertex pattern
- Typical pattern
- Anterior pattern
Low serum testosterone may cause balding.
Lower absolute serum androgen conc. in men with a disposition to balding

**SUBJECTS:** 110 healthy young men. The results were compared with the development of terminal hair on the trunk and limbs, with the disposition to balding and with the disposition to acne.

**RESULTS:** No significant correlations were found between terminal hair development and absolute androgen levels; however, some significant values were observed in the case of the metabolic rate of **DHT/testosterone** & the proportion of free to total testosterone. The disposition to balding also correlates positively with the latter ratio. Yet the absolute serum androgen concentrations in men with a disposition to balding is lower than in men with no reduction of scalp hair. The widespread assumption that androgen levels are in general elevated in bald-trait men must therefore be rejected. In accordance with this finding, men with a disposition to balding are morphologically (with regard to anthropometric measures) no more masculine than those with good scalp hair growth. When body build and age are taken into consideration, the relations between terminal hair and androgen ratio are also problematical. No relationship could be found between acne and androgens.

SUBJECTS: 37 men + premature balding (defined as frontoparietal & vertex hair loss before the age of 30 years with alopecia defined as grade 3 vertex or more on the alopecia classification scale of Hamilton with Norwood modification).

Results

The frequency of subnormal values in SHBG, FSH, testosterone and epitestosterone (but not in free androgen index) was significant in the balding men. A borderline significant trend was recorded with respect to increased levels in 17OH-P and prolactin.

Conclusions

The hormonal pattern of a substantial number of men with premature balding resembles in some respects the hormonal pattern of women with polycystic ovary syndrome.
SUBJECTS: 48 normal men, together with muscle, fat and bone thickness and plasma testosterone.

RESULTS: sign. correlation between hair density on the forearm, leg & chest, but no other significant

CCL: bald men are no more 'masculine' than those with good scalp hair growth, if masculinity is defined in terms of end-organ response to androgenic stimulation.

DHT causes Balding
DHT

Normal hair follicle

Follicle shrinks over time

Very small follicle results in baldness
Blood supply
Sebum gland
Hair shaft
Hair root
Muscle
Intercellular
Poil
POIL
TOX
X
XXX
+++
+++  +++

Greasy
Body hair
Rich
Low
Testosterone
High Dihydro-
-testosterone
atrophy
Poor
Blood supply
Higher DHT in premature baldness

Male-pattern baldness (MPB) is not started from occipital, but frontal or scalp of head. We can assume that distribution of androgenic steroids is different for each region of the head.

SUBJECTS: 22 subjects + baldness, 13 + non-baldness

RESULTS: Premature baldness subjects (vz non-baldness subjects)
• higher level of dihydrotestosterone (DHT) & higher ratio of testosterone to epitestosterone (T/E ratio) in vertex hair (vs sample of (P<0.001, 0.001),)
• not different androgen levels in occipital hair
• higher levels of DHT, testosterone, & DHT/T ratio in plasma from premature MPB (P<0.001, 0.001, 0.005).

CCL:
• the distribution of androgenic steroids is unlike in various regions of individual subjects.
• the increased DHT/T ratio in balding plasma indirectly confirms the high activity of 5alpha-reductase type II.

More androgen receptors in balding hair

N A Hibberts, A E Howell and V A Randall.

Balding hair follicle dermal papilla cells contain higher levels of androgen receptors than those from non-balding scalp hair follicles. The concentration of receptors in each cell line was measured as described in Fig. 1.

Figure 3 Greater levels of androgen receptors ($B_{\text{max}}$) were present in primary lines of cultured dermal papilla cells derived from balding scalp hair follicles ($n=6$) compared with those from non-balding scalp hair follicles ($n=5$) ($P<0.01$). The concentration of receptors in each cell line was measured as described in Fig. 1.

N A Hibberts, A E Howell and V A Randall. Balding hair follicle dermal papilla cells contain higher levels of androgen receptors than those from non-balding scalp hair follicles. Department of Biomedical Sciences, University of Bradford, Bradford BD7 1DP, UK (Requests for offprints should be addressed to V A Randall, Department of Biomedical Sciences, University of Bradford, Bradford, BD7.)
Treatment of Male Pattern Baldness
TREATMENT OF MALE PATTERN BALDNESS

1. ↑ TESTOSTERONE
   => Testosterone liposomal gel
   100 mg/g 0.5 to 2 g/day

2. ↓ DIHYDROTESTOSTERONE
   => FRinasteride
   2 to 2.5 mg/day
TREATMENT OF MALE PATTERN BALDNESS

3. ↑ BLOOD CIRCULATION LOCALLY

Hair oily vegetable solution at night
Hair oily shampoo in morning (10 ‘)

4. ↓ STRESS => ↓ ANXIETY

=> REST, SLEEP 6-7 h/night
Peacefulness EXPRESSION
(do not withhold anxiety inside, let it go)
Male pattern baldness

During 18-48 months:
• **5-alpha-reductase blocker:** Oral finasteride 2.5 mg/day
• **Male hormone treatment:** An additional ½ g of transdermal testosterone liposomal gel 10% on forehead, neck, sides of neck, area above collar bones, sides of trunk

Notes:
• If erectile dysfunction: add a ½ gram more
• No results visible before 4 months, than gradually better

Severe male pattern baldness

MALES: Add every night thin layer of oily hair solution of jojoba oil with 10% testosterone and spironolactone 0.1% (as androgen-blocker) and progesterone 5% or finasteride 1% on bald areas and wash hair at wakeup